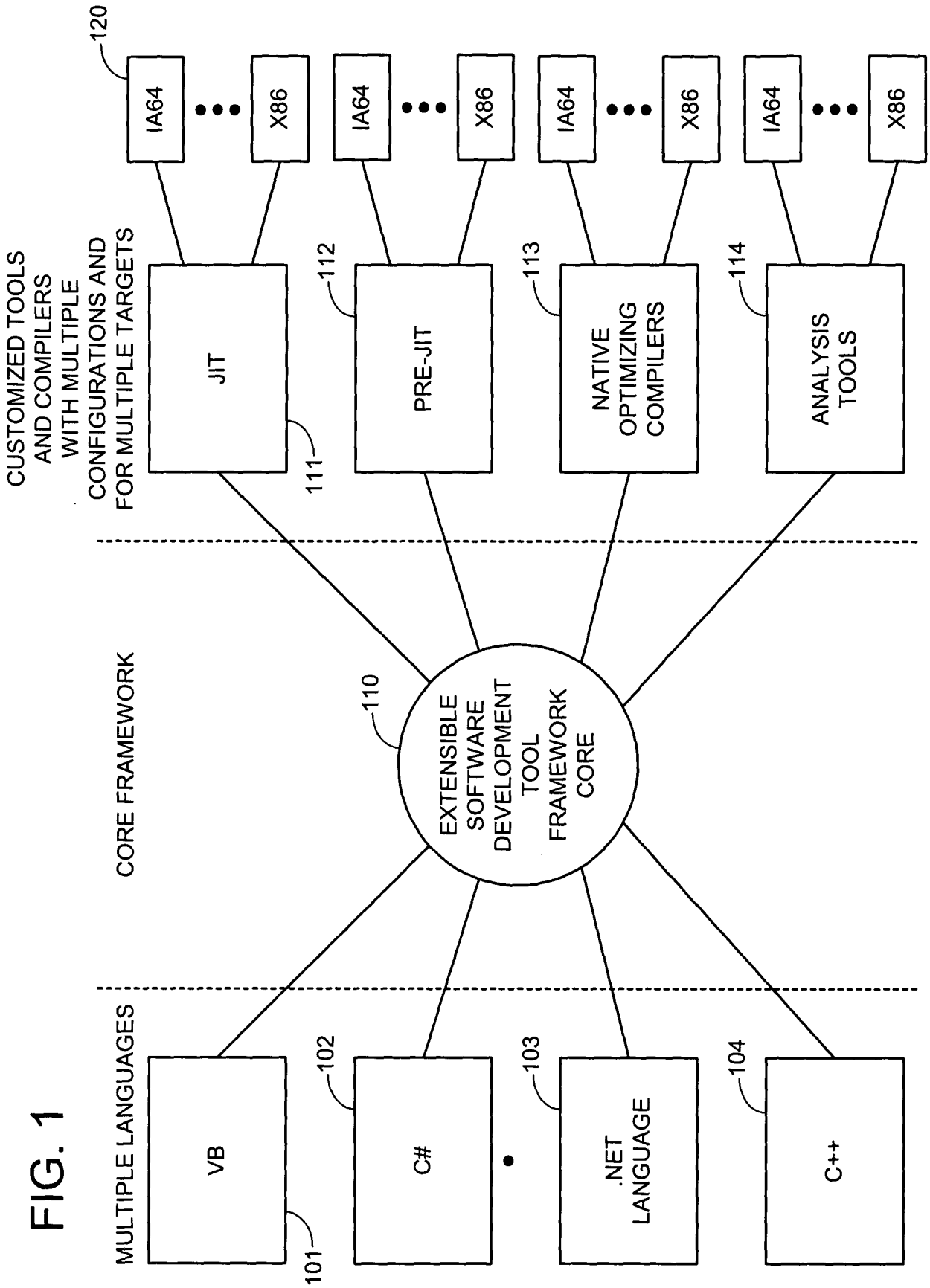

CUSTOMIZED TOOLS AND COMPILERS WITH MULTIPLE CONFIGURATIONS AND FOR MULTIPLE TARGETS
CORE FRAMEWORK
MULTIPLE LANGUAGES
120
IA64
X86
JIT
111
112
PRE-JIT
113
NATIVE OPTIMIZING COMPILERS
114
ANALYSIS TOOLS
110
EXTENSIBLE SOFTWARE DEVELOPMENT TOOL FRAMEWORK CORE
VB
101
C#
102
.NET LANGUAGE
103
C++
104

FIG. 1

FIG. 2A

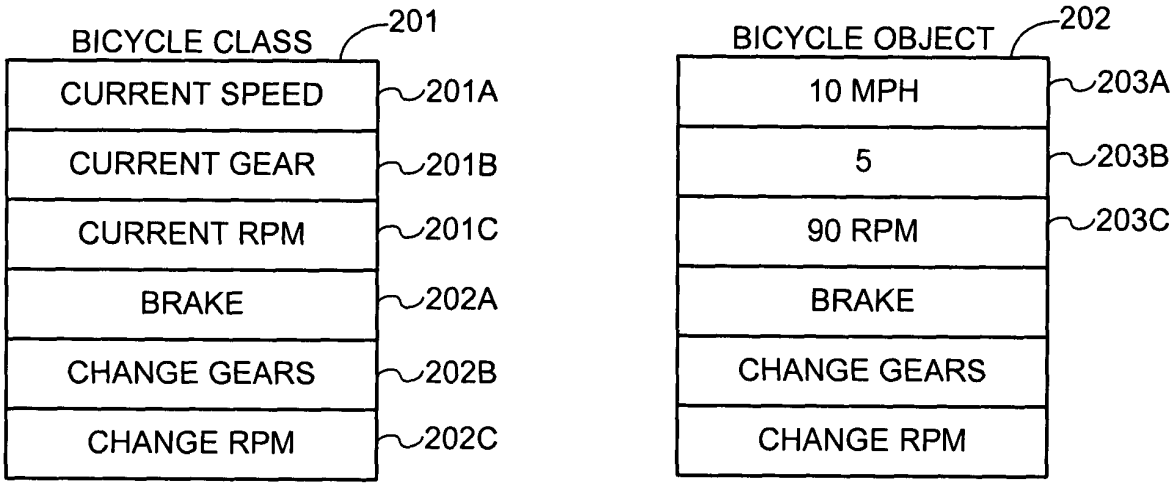

BICYCLE CLASS
201
CURRENT SPEED
201A
CURRENT GEAR
201B
CURRENT RPM
201C
BRAKE
202A
CHANGE GEARS
202B
CHANGE RPM
202C
BICYCLE OBJECT
202
10 MPH
203A
5
203B
90 RPM
203C
BRAKE
CHANGE GEARS
CHANGE RPM

FIG. 2B

210
CORE CLASS
1
2
220
EXT 1
1
2
3
4
225
230
EXT 2
1
2
3
4
225
260
EXT 5
1
2
5
6
265
240
EXT 3
1
2
3
4
225
7
8
245
250
EXT 4
1
2
3
4
225
9
10
255
270
EXT 6
1
2
5
6
265
9
10
255

FIG. 3A

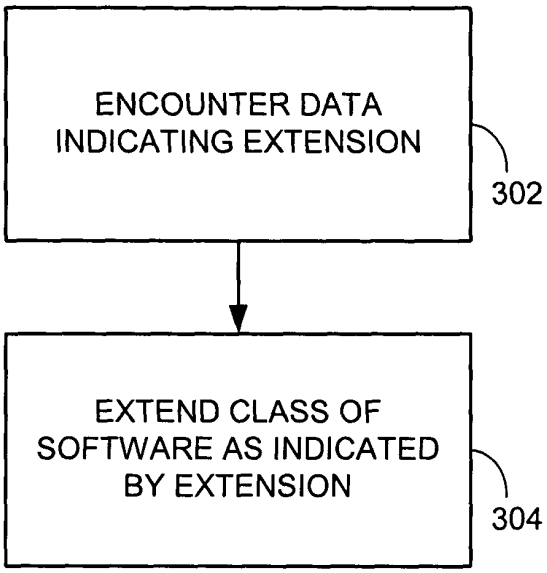

ENCOUNTER DATA INDICATING EXTENSION
302
EXTEND CLASS OF SOFTWARE AS INDICATED BY EXTENSION
304

FIG. 3B

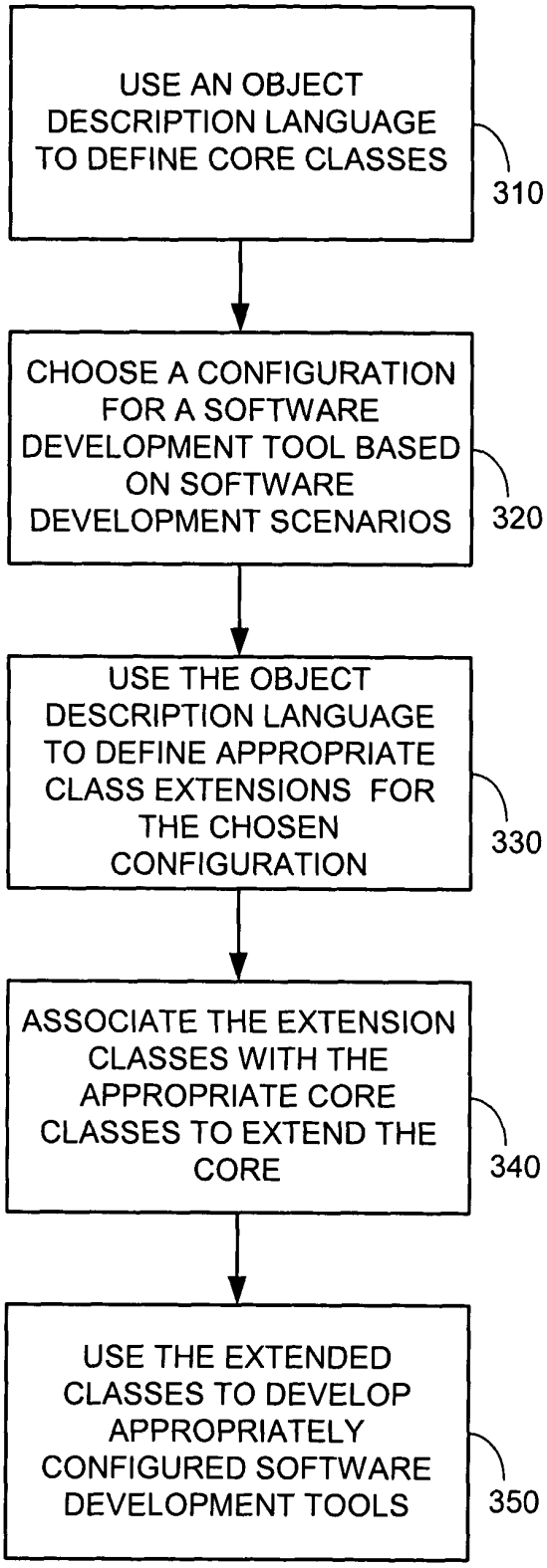

USE AN OBJECT DESCRIPTION LANGUAGE TO DEFINE CORE CLASSES
310
CHOOSE A CONFIGURATION FOR A SOFTWARE DEVELOPMENT TOOL BASED ON SOFTWARE DEVELOPMENT SCENARIOS
320
USE THE OBJECT DESCRIPTION LANGUAGE TO DEFINE APPROPRIATE CLASS EXTENSIONS FOR THE CHOSEN CONFIGURATION
330
ASSOCIATE THE EXTENSION CLASSES WITH THE APPROPRIATE CORE CLASSES TO EXTEND THE CORE
340
USE THE EXTENDED CLASSES TO DEVELOP APPROPRIATELY CONFIGURED SOFTWARE DEVELOPMENT TOOLS
350

FIG. 4A

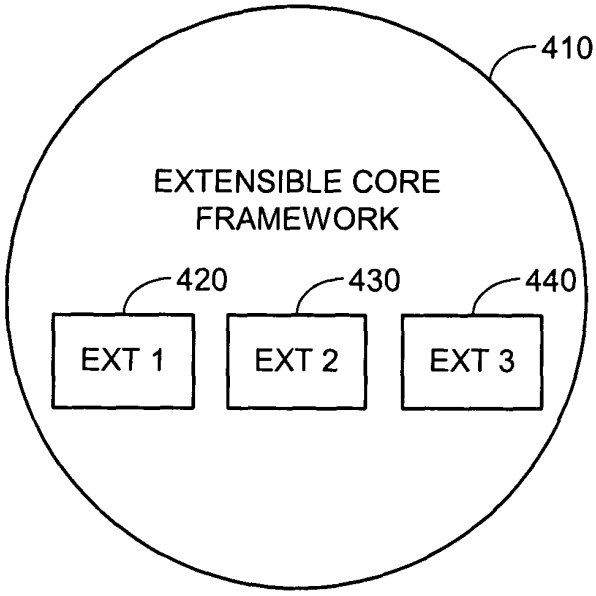

410
EXTENSIBLE CORE FRAMEWORK
420
430
440
EXT 1
EXT 2
EXT 3

FIG. 4B

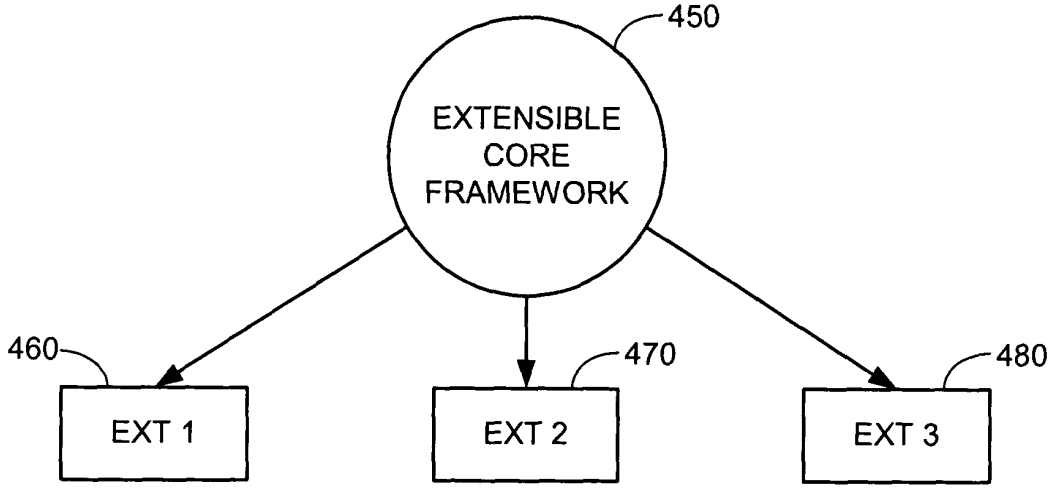
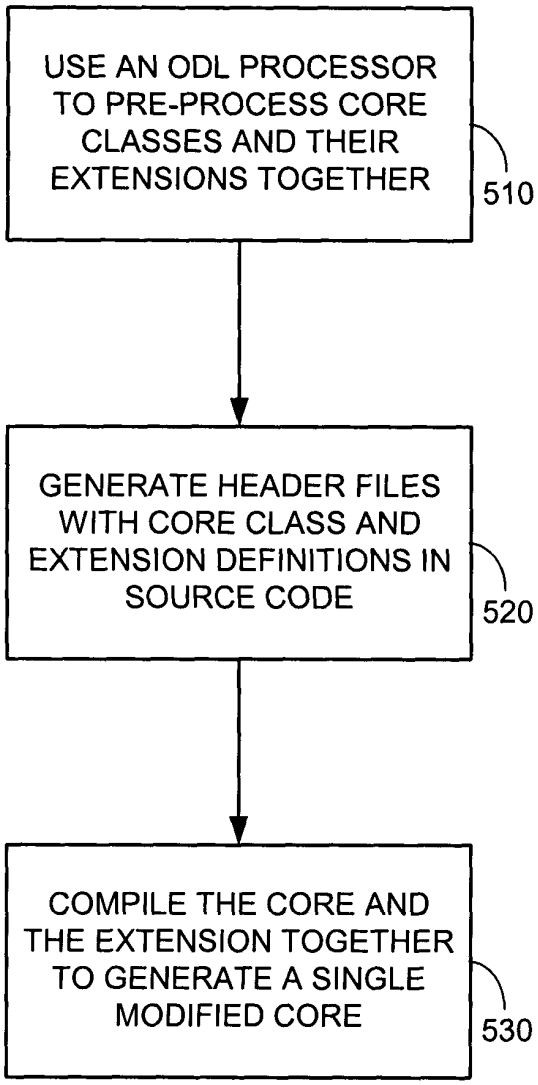

450
EXTENSIBLE CORE FRAMEWORK
460
470
480
EXT 1
EXT 2
EXT 3

FIG. 5


USE AN ODL PROCESSOR TO PRE-PROCESS CORE CLASSES AND THEIR EXTENSIONS TOGETHER
510
GENERATE HEADER FILES WITH CORE CLASS AND EXTENSION DEFINITIONS IN SOURCE CODE
520
COMPILE THE CORE AND THE EXTENSION TOGETHER TO GENERATE A SINGLE MODIFIED CORE
530

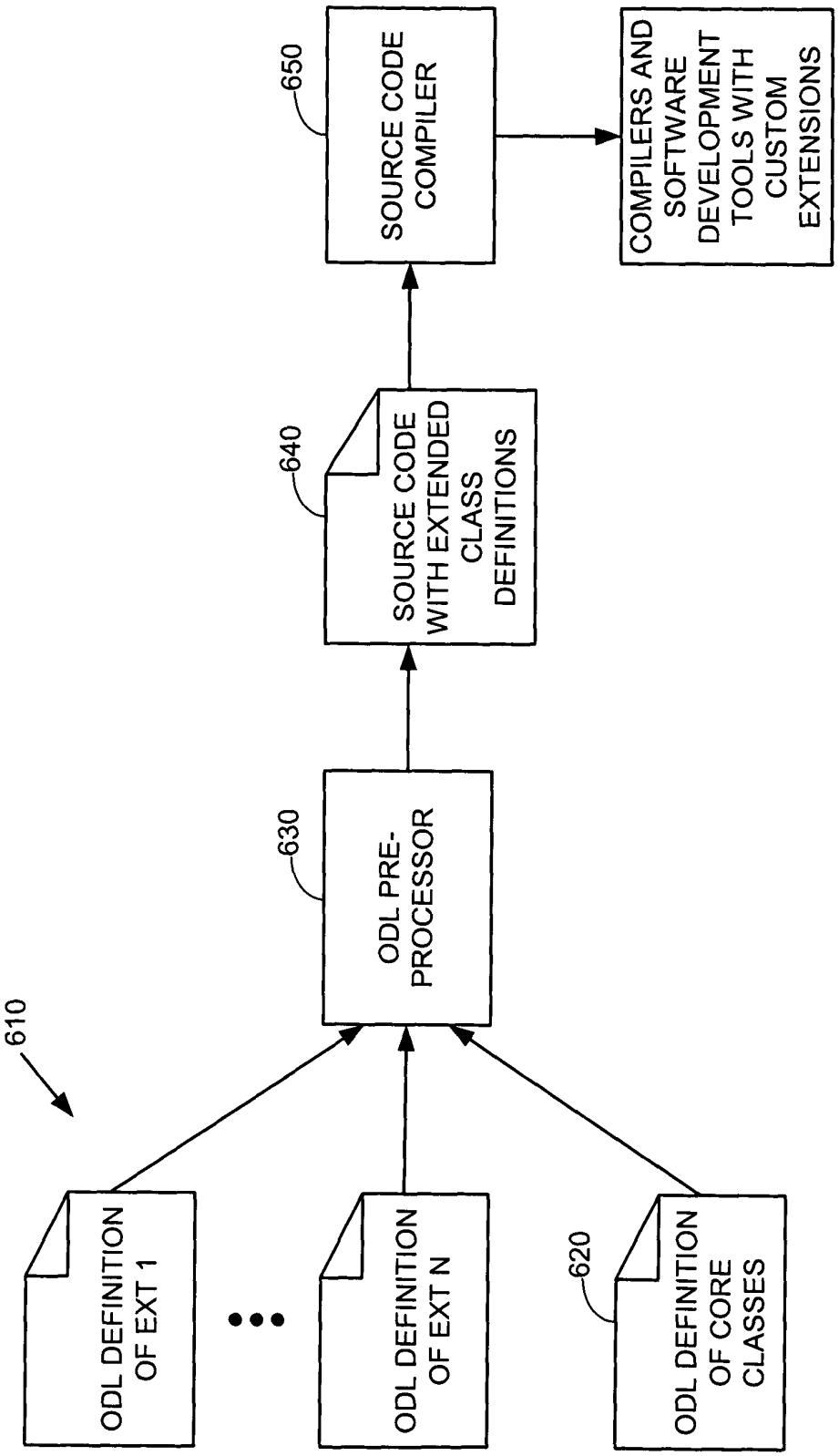
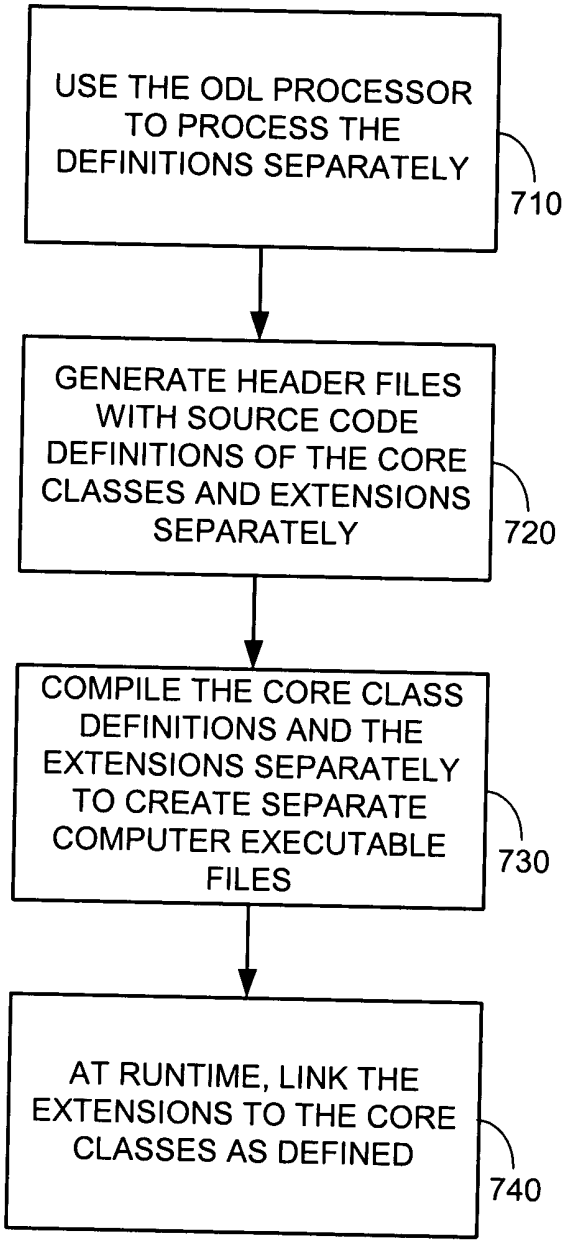

610
ODL DEFINITION OF EXT 1
ODL DEFINITION OF EXT N
ODL DEFINITION OF CORE CLASSES
620
630
ODL PRE-PROCESSOR
640
SOURCE CODE WITH EXTENDED CLASS DEFINITIONS
650
SOURCE CODE COMPILER
COMPILERS AND SOFTWARE DEVELOPMENT TOOLS WITH CUSTOM EXTENSIONS

FIG. 6

FIG. 7


USE THE ODL PROCESSOR TO PROCESS THE DEFINITIONS SEPARATELY
710
GENERATE HEADER FILES WITH SOURCE CODE DEFINITIONS OF THE CORE CLASSES AND EXTENSIONS SEPARATELY
720
COMPILE THE CORE CLASS DEFINITIONS AND THE EXTENSIONS SEPARATELY TO CREATE SEPARATE COMPUTER EXECUTABLE FILES
730
AT RUNTIME, LINK THE EXTENSIONS TO THE CORE CLASSES AS DEFINED
740

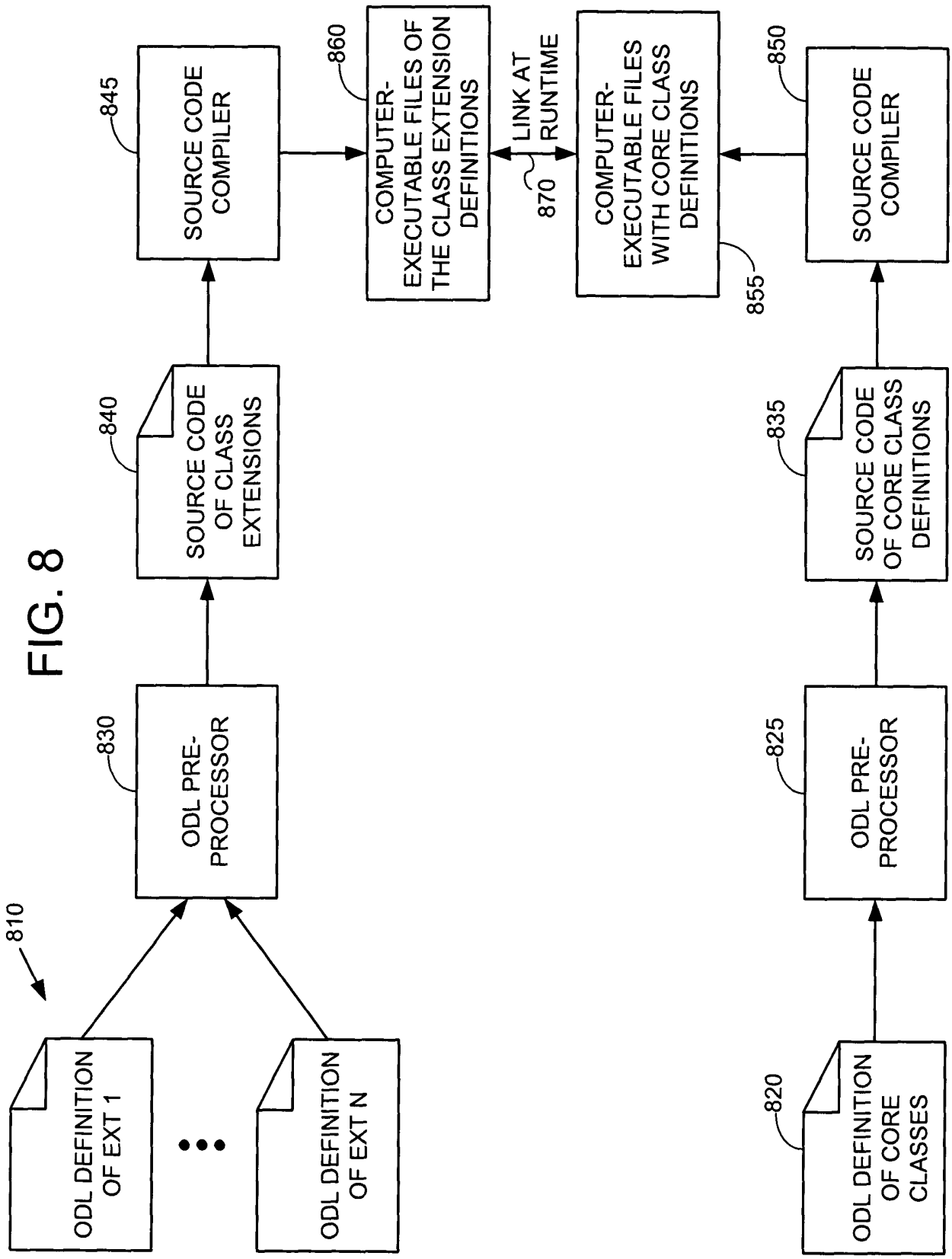

810
ODL DEFINITION OF EXT 1
ODL DEFINITION OF EXT N
830
ODL PRE-PROCESSOR
840
SOURCE CODE OF CLASS EXTENSIONS
845
SOURCE CODE COMPILER
860
COMPUTER-EXECUTABLE FILES OF THE CLASS EXTENSION DEFINITIONS
LINK AT RUNTIME
870
COMPUTER-EXECUTABLE FILES WITH CORE CLASS DEFINITIONS
855
850
SOURCE CODE COMPILER
835
SOURCE CODE OF CORE CLASS DEFINITIONS
825
ODL PRE-PROCESSOR
820
ODL DEFINITION OF CORE CLASSES

FIG. 8

FIG. 9A

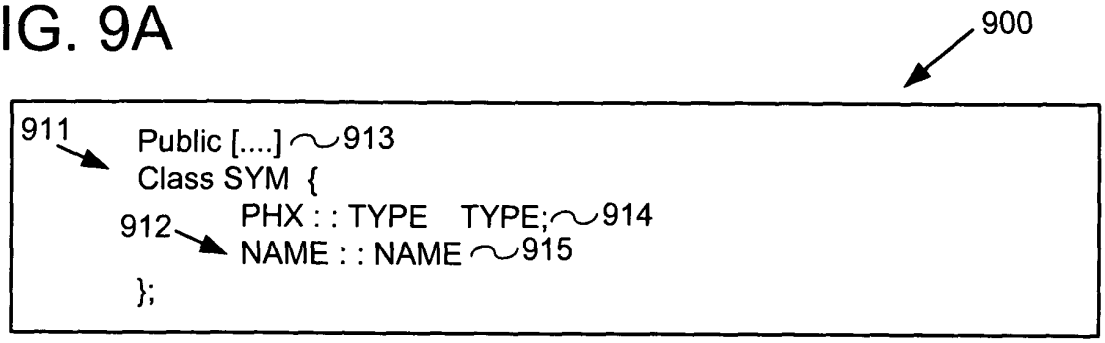


FIG. 9B

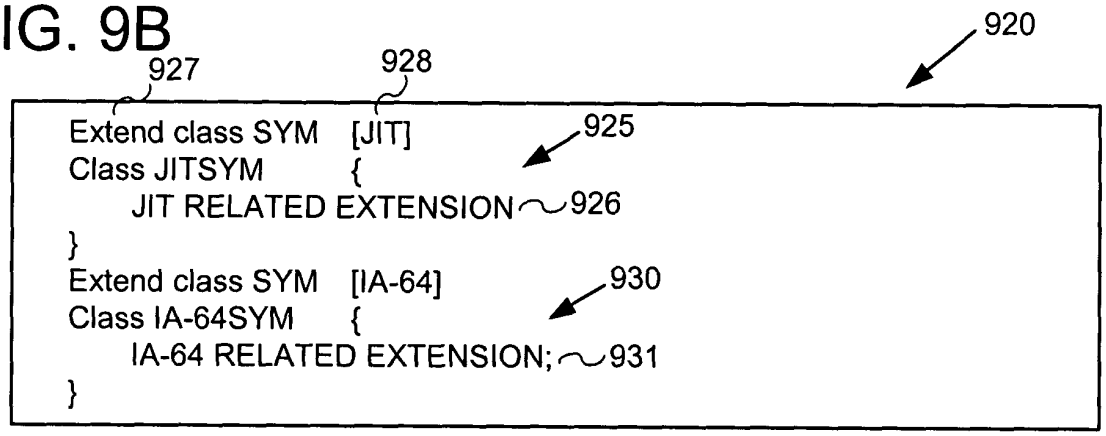


FIG. 9C

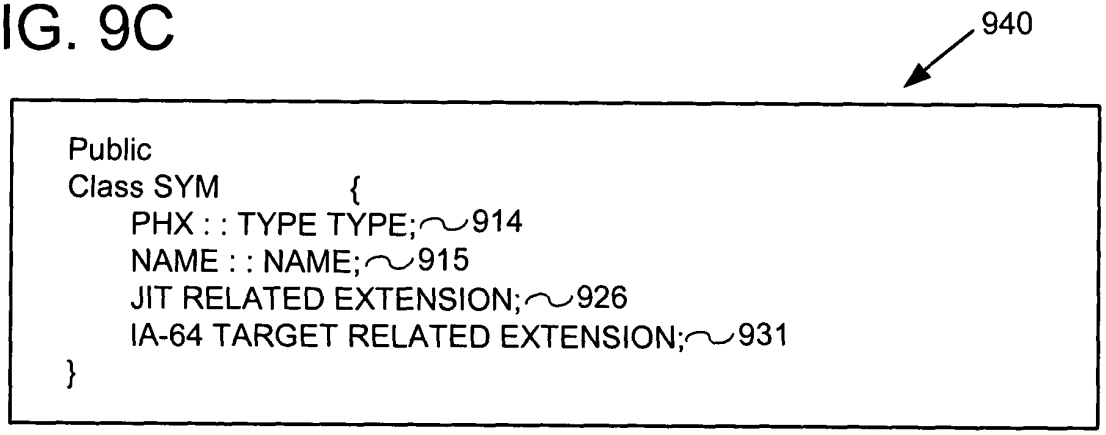


FIG. 10A

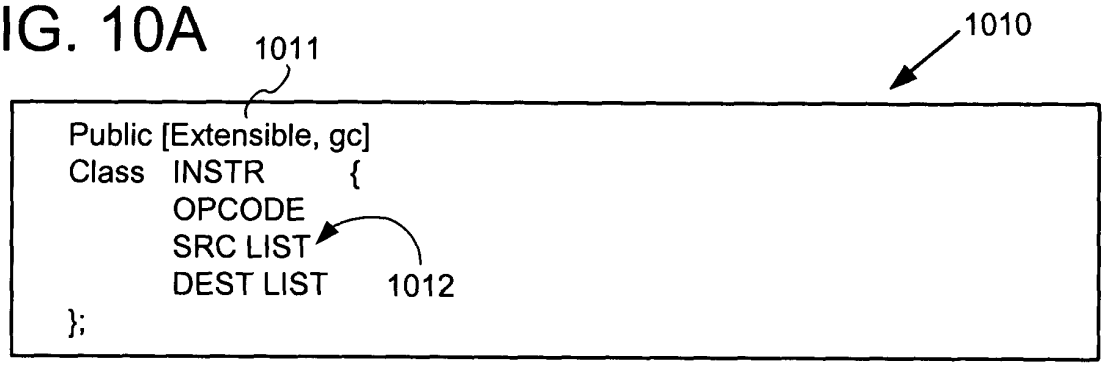


FIG. 10B

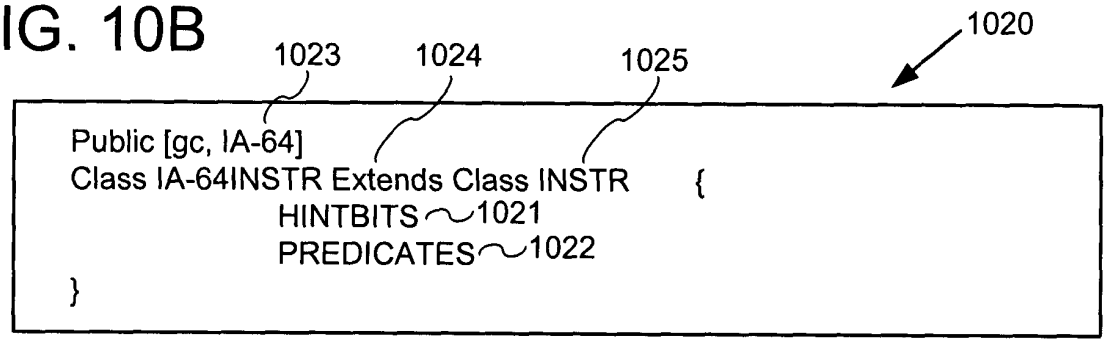


FIG. 10C

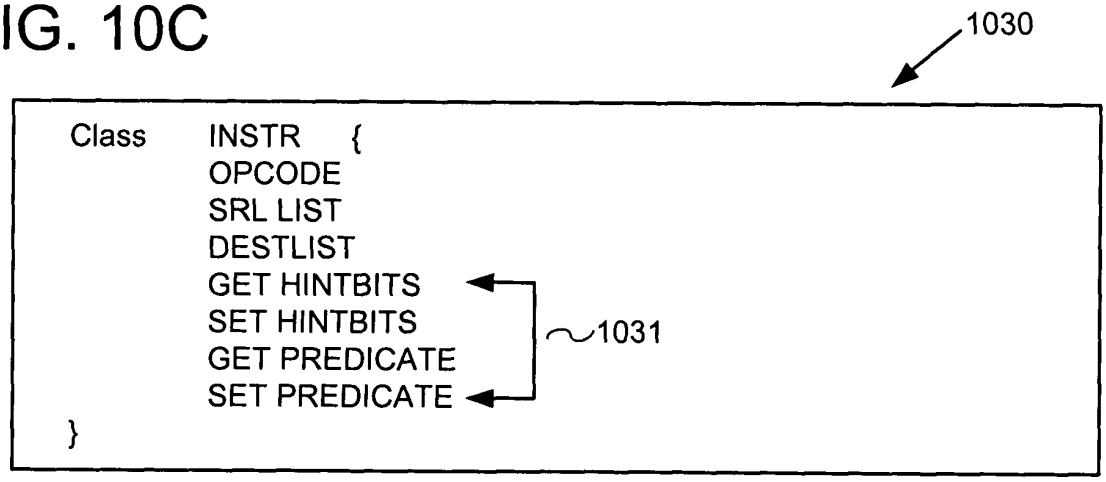


FIG. 11A

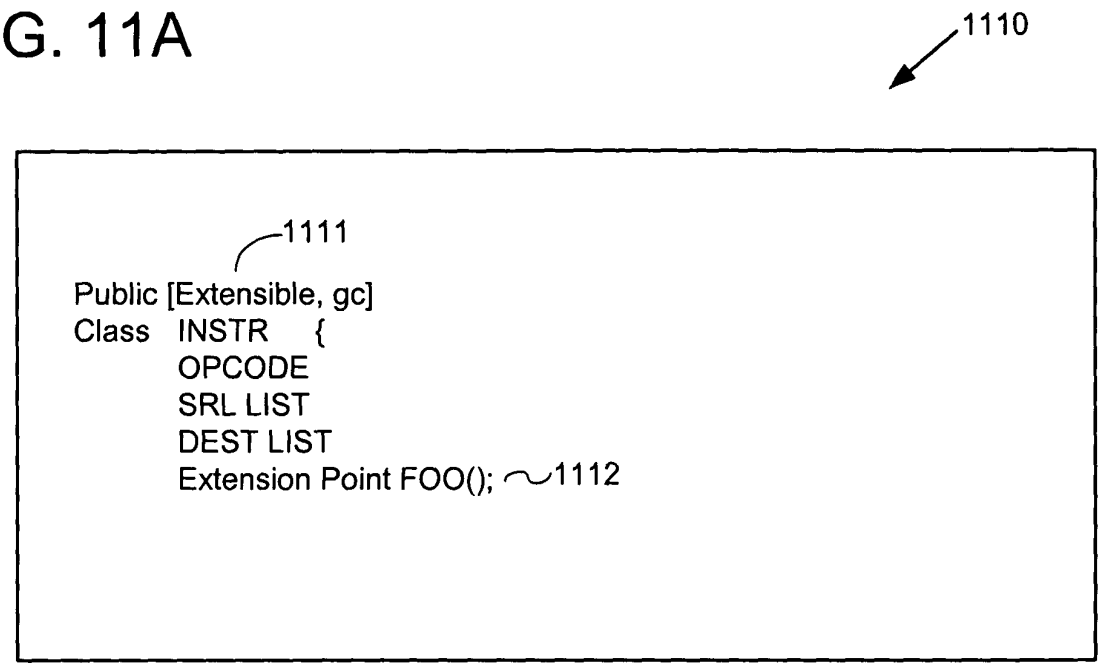


FIG. 11B

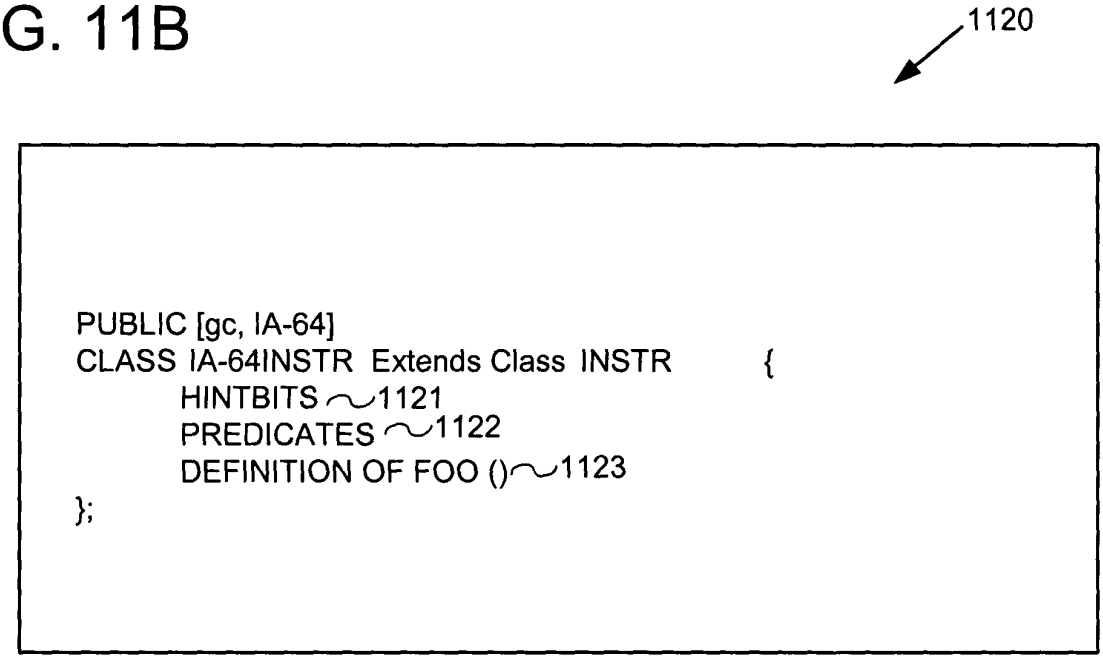
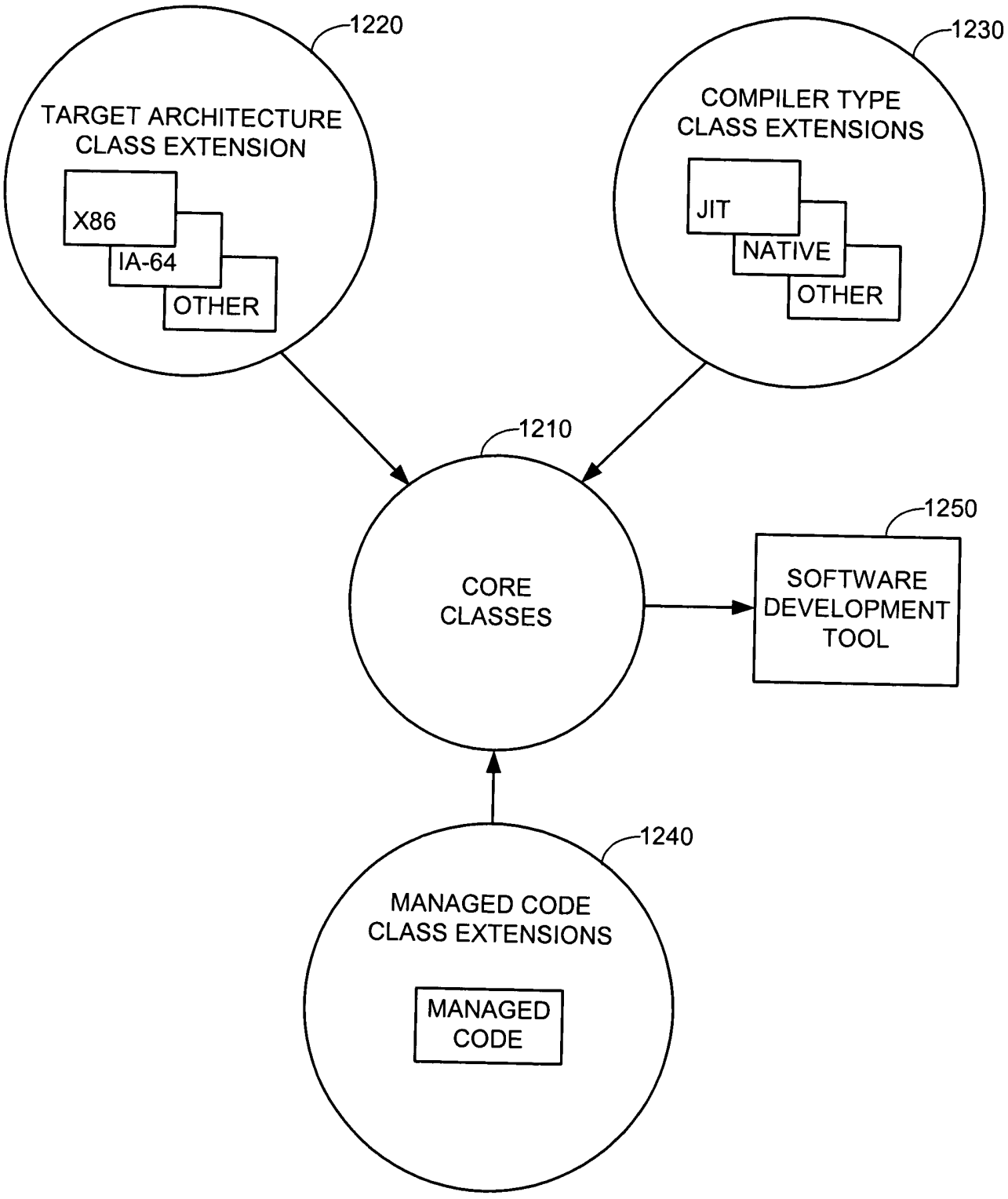


FIG. 12


1220
TARGET ARCHITECTURE CLASS EXTENSION
X86
IA-64
OTHER
1230
COMPILER TYPE CLASS EXTENSIONS
JIT
NATIVE
OTHER
1210
CORE CLASSES
1250
SOFTWARE DEVELOPMENT TOOL
1240
MANAGED CODE CLASS EXTENSIONS
MANAGED CODE